# A STUDY OF THE GLASS CONTAINER INDUSTRY WITH PARTICULAR EMPHASIS ON THE FINANCING AND FINANCIAL POLICIES OF THE OWENS-ILLINOIS GLASS COMPANY

BY

DANIEL J. JAMES

B.Ed., Eastern Illinois State Teachers College, 1942
M.S., University of Illinois, 1946

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# A STUDY OF THE GLASS CONTAINER INDUSTRY WITH PARTICULAR EMPHASIS ON THE FINANCING AND FINANCIAL POLICIES OF THE OWENS-ILLINOIS GLASS COMPANY

Glass containers were produced in the first manufacturing establishment in the New World. The glass container industry, however, was one of the last major industries in the United States to employ mechanical productive methods. Until late in the nineteenth century the industry was one that employed a huge number of highly skilled craftsmen whose few tools and skilled methods were much the same as those which had been used by their predecessors for hundreds of years.

Handicraft methods prevailed in the glass container industry until the invention of the semi-automatic bottle making machine. The most significant invention which brought about a technological revolution and was a factor in changing the form of business organization and ownership in the industry was the invention of Michael J. Owens who introduced the automatic glass bottle blowing machine. In order to market his invention and its products, Mr. Owens formed the Owens Bottle Machine Company (later changed to the Owens-Illinois Glass Company).

One of the first economic effects of this new machine was the displacement of labor and the displacement of the skill of those workers who were employed by the glass container industry. The introduction of mechanical methods and mass production techniques permitted the products of the glass container industry to be more widely used and the total demand for its products greatly increased. As the industry grew, the employment opportunities offered the American labor force increased. By 1948 the industry was producing ninety-two glass containers per capita and the Owens-Illinois Glass Company was employing more wage earners than the entire

glass container industry had employed prior to mechanization.

Michael J. Owens had obtained patents on his invention which employed the "suction" process for the making of glass containers. Subsequently, another bottle blowing method was discovered which employed the "gob feed" process. The patents on this latter process were controlled by the Hartford-Fairmont Company (later changed to the Hartford-Empire Company). Thus, the glass container field was controlled almost exclusively by these two companies which held the basic patents. The Hartford Company did not produce glass containers, but licensed producers to use its patented machines. At first the Owens Company licensed users of the suction process, but later the company entered into the production of glass containers and ceased to license other producers. This practice tended to restrict competition.

Both the Hartford-Empire Company and the Owens-Illinois Glass Company attempted to control the number of producers in the field. Later the two companies entered into cross-licensing agreements whereby, in effect, the glass container field was divided between these two former competitors. Such activities attracted the attention of the United States Department of Justice and precipitated an investigation of the concentration of economic power in the glass container industry by the Temporary National Economic Committee. Subsequently, the action of the court caused the Hartford-Empire Company to decide to sell its equipment outright rather than lease it. And the Owens Company agreed to license users of its patents at a nominal charge.

For at least a quarter of a century before the final disposition of the antitrust case in May, 1947, the Owens-Illinois Glass Company had been the leading firm in the glass container industry. The output of this one firm accounted for nearly forty percent of all glass containers produced in the United States.

The Owens Bottle Machine Company was first incorporated under New Jersey laws in 1903, and in 1907 it was chartered

as an Ohio corporation. Although its original purpose was to grant licenses for the use of the inventions of its founder, the company entered into the production of glass containers and ceased to license competitors. This was the beginning of a horizontal expansion program which eventually resulted in the Owens-Illinois Glass Company becoming the dominant firm in the glass container industry.

The capital structure of the Owens Bottle Machine Company initially contained an issue of preferred stock. Throughout the history of the firm the majority of the capitalization has been in the form of common stock. Not until 1929 did the company engage in creditorship financing through the use of bonded debt. During 1933 the company simplified its capital structure by retiring all outstanding preferred stock. This was in keeping with a conservative policy of financing through senior claim securities. In following such a policy the management also retired funded debt in advance of due date leaving the entire corporate resources unimpeded by prior-charge securities. Likewise, the company's program of expansion was carried on primarily through the retention of earnings and the sale of common stocks. Such a policy of equity financing and corporate expansion was possible because of the favorable and consistent earnings position enjoyed by the company and because of the liberal dividend policy followed by the Board of Directors.

The company expanded its total corporate resources from $37,769,650 in 1925 to $193,186,087 in 1950. Throughout this period management tended to favor a modified form of the New England theory of corporate expansion. However, the company did not follow the New England theory strictly, because intermittently the firm engaged in funded debt financing. Even in the use of funded debt the company showed signs of being particularly conservative. In each of the three periods when funded debt was used, the company retired its outstanding obligations in advance of their due date. The firm's policy of retiring rather than refunding its long-term obligations indicates that the management considered this type of

financing as a temporary rather than as a permanent means of obtaining capital. Such a policy of financing is likely to be followed only by a firm which is enjoying a favorable earnings position.

There are certain social implications to be considered in following the New England theory of corporate expansion. If all major firms were to finance their activities solely through the use of retained earnings and the sale of equity stock, there would likely be a withering or drying up of capital investment opportunities for insurance companies, other financial institutions, and individuals. Thus, if no corporations were to obtain capital through bonded indebtedness, a considerable segment of the investing public would be forced to find other relatively secure investment opportunities. This apparent social disadvantage should be weighed against the fact that corporations following this theory of corporate expansion generally suffer less in periods of depression. In the case of the Owens-Illinois Glass Company, the earnings position was such that in each of the three periods in which long-term debt was used, the company was able to obtain the funds from financial institutions.

The conservativeness of the management of the Owens-Illinois Glass Company is also evident from a study of the policy followed in trading on the equity. In retrospect it may be asserted that management was too conservative and passed up excellent opportunities to gain from trading on the equity. This is a question largely of risk and management's evaluation of that risk. In not risking the magnification of possible losses, the company chose to forego the possibility of increased net common stock earnings from extensive trading on the equity. The investment opportunities which the Owens-Illinois Glass Company offered, although primarily of an equity nature, proved profitable not only to the stockholder but also to the creditors whose confidence in the security of both their long- and short-term investments was sustained.

# VITA

Daniel J. James was born on March 21, 1920, in Nokomis, Illinois. After being graduated from Charleston High School in 1938, he entered Eastern Illinois State Teachers College in Charleston, and was awarded the degree of Bachelor of Education in June, 1942.

In June, 1942 he was inducted into the United States Army and on December 16, 1942 he was graduated as a Second Lieutenant from the Army Administration Officer Candidate School at the University of Florida in Gainesville. From January to April, 1943 he attended an Army Officers' school at Washington and Lee University in Lexington, Virginia. From June, 1943 to August, 1945 he served in the London, England headquarters of the European Theatre of Operations, first as an Education Officer and later as a Troop Movements Officer.

Upon release to inactive duty in September, 1945, he was admitted to the Graduate College of the University of Illinois, and in June, 1946 was awarded the degree of Master of Science in Business Organization and Operation. From this date until August, 1947 he worked in the Production Office of the Taylor Instrument Company in Rochester, New York.

From September, 1947 to February, 1948 he was an Instructor in Business at Flint Junior College, Flint, Michigan and from February, 1948 to July, 1950 he was Instructor in Business at Central Michigan College in Mt. Pelasant. In September, 1950 he was readmitted to the Graduate College of the University of Illinois.

He held a Graduate Assistantship at the University of Illinois during the Summer of 1948 and from September, 1951 to June, 1952. He has been appointed to an Assistant Professorship in the College of Business Administration of the University of Georgia in Atlanta for the 1952-53 academic year.

He is a member of Sigma Iota Epsilon and of the American Marketing Association.